

An Appraisal of Adoption of Information Technology and Innovative Measures in an Emerging Market

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Abstract

In this era of new technology, research facilities, globalization and the flood of new products, tough competition is being faced by Indian automobile industry. Today's automotive consumers are well informed and have a wider choice in the market place. All the companies are facing massive challenges and strive to acquire the maximum possible market share in an overcrowded market. Therefore, the area of Relationship Marketing and CRM continues to receive attention both in literature and practice to enhance customer loyalty and customer retention. CRM has been accompanied by technology developments that emphasizes on individual or one to one relationships with customers by integrating database knowledge with the long term prospects of growth and customer loyalty. Hence, the present study empirically examines the extent of adoption of new technology and innovative measures to implement CRM by automobile companies in India. Data was collected from the 150 sales executives of top 10 car manufacturing companies in Punjab. The results found that the sales executives of all the companies believe that their respective automobile company adopts the new technology to implement CRM but their adoption level differs from company to company. However, initiatives are still required to use innovative strategies for the successful implementation of CRM technology.

Key Words: Customer Relationship Management (CRM), Information Technology (IT), Innovation

Introduction

The automobile industry in India has prospered after economic liberalization in 1990's like never before. After the liberalization of the economy in 1991, Indian automotive industry is moving upwards on the growth track with large number of international auto manufacturers setting up their manufacturing facilities in India. As a result, Indian automobile industry suddenly exposed to a vast international market as an opportunity and to global competition in large scale. The rapid improvement in infrastructure, huge domestic market, increasing purchasing power, established financial market and stable corporate governance framework have made the country a favourable destination for investment by global leaders in the auto industry, as per AMP 2006-16. The Indian automobile industry has opportunity in terms of business opportunity worldwide and threats from mega suppliers who are more equipped to compete. Owing to innovations, advancement in new technology and changes in customers' needs, preferences and expectations, the industry faced a major shift from a seller's market to a buyer's market. To cope up with enhanced competition, changing customers' needs and preference and ongoing product improvement, the marketing trends are

changing from mass marketing to interactive & customized marketing and finally to relationship marketing. Consequently, all objectives are focused on one ultimate goal, that is, to make customers satisfied and happy because they are the one who keep businesses running.

Customer Relationship Management (CRM)

Presently, the technology provides businesses with systems that can help companies track customers' interactions with firms and allow the firm's employees to quickly retrieve all information about customers. This concept is known as Customer Relationship Management (CRM) system and if used properly, could enhance a company's ability to achieve the ultimate goal of retaining customers and gain a strategic advantage over its competitors (Nguyen et.al, 2007). The term "Customer Relationship Management" emerged in Information Technology (IT) vendor community and practitioner community in the mid-1990s. It is often used to describe technology based customer solutions, such as sales force automation (Payne and Frow, 2005). But, CRM is a strategy by which companies optimize profitability through enhanced customer satisfaction. It is a business strategy, not a technology. It involves process, technology and the people issues (Chaturvedi & Chaturvedi, 2005). Therefore, thinking about CRM in primarily technological terms is a mistake. The more useful to think about CRM is as a process that helps bring together lots of pieces of information about customers, sales, marketing effectiveness, responsiveness and market trends (Saxena, 2010). It is a business strategy designed to help an enterprise understand and anticipate the needs of its potential and current customers. Customer data, acquired in several different areas of enterprise, is kept in central database and analyzed and distributed to the key points (called touch points). Touch points can constitute of mobile sales force, call centers, websites, direct marketing channels and any other part of an enterprise that interact with the customers (Anderson & Stang, 2004). The main goals of CRM are to build long term and profitable relationships with chosen customers and getting closer to those customers with every point of contact with them. With growing time and increased penetration of web based tools CRM again transformed to web-based contact management.

Literature Review

Qureshi & Khan (2004), provided key marketing strategies such as place strategy, product strategy, promotion Strategy and price Strategy which play a significant role in the way competitive advantage is achieved and sustained. The Paper also highlighted the significance of internet in achieving superior performance in today's hi tech world. **Jayachandran et. al (2005)**, found that relational information processes play a vital role in enhancing an organization's customer relationship performance and technology used to implement CRM performs an important and supportive role. **Viljoen et. al (2005)**, formulated the proposition that the customers of organizations that have a greater incorporation of technology in their CRM strategies will be more satisfied than those with a lower degree of technology. **Khare and Khare (2008)**, explored that for sustaining relationships with customers, the management should develop systems that lead to build these relationships. Moreover, CRM will give results only if the organization is able to realign its processes according to the results it expects from the market. **Smith (2009)**, compared the more traditional vehicle

manufacturers'/dealers', and customer relationship with the web enabled model. The study revealed that the people were using the internet with greater regularity to gain information about vehicle purchase. **Liang (2010)**, found that the sample automotive maintenance factory treated all customers with same strategies and thus resulting in cost-wastage and inefficiency. The study proposed promoting customer value strategies on the basis of customer segmentation. High the customer value more should be the spending amount on customer services in order to enhance loyalty. **Lin et. al (2010)**, found that computer manufacturers in Taiwan perform various levels of CRM and consequently display different levels of effect on each of five innovation capabilities and the statistical results provide managers with useful guidelines for implementing appropriate CRM practices to develop specific innovation capabilities to respond to enhanced competitiveness. **Saxena (2010)**, proposed a hybrid model and considered the business strategy perspective on CRM. Author concluded that, as the competition intensifies, organizations are trying every trick to retain existing customers and add new ones with a wide range of services. It helps them to design better customized products, improve service level and reduce operational costs which mean more quality business.

Therefore, covering the gaps in the existing literature the present Study is mainly focused to assess the perception of sales executives with regard to use of Technology and Innovation Measures for implementing CRM Practices by the automobile companies.

Research Methodology

The present study is based on primary as well as secondary data. The primary data is collected with the help of structured questionnaire using 5-Point Likert Scale ranging from strongly agree to strongly disagree which is prepared by interviewing customers and employees, reviewing existing literature etc. A total sample size of 150 sales executives of top ten automobile companies mentioned in table 1 is obtained keeping in mind the research objectives and constraints. Secondary data is collected from published reports, various books, journals, magazines, newspapers and various websites related to customer relationship management and automobile industry in India. Keeping the research objectives and time constraints in mind the extent of present research work is confined to the sales executives of below mentioned top ten companies of Punjab state only. Cronbach Alpha, Mean, Standard Deviation, T-test and ANOVA are used as statistical tools to analyze the data.

Table 1: List of top ten car manufacturing companies in India based on the market share in car segment for the year 2020

Name of the Company	Market Share (in %age)
Maruti Suzuki India Ltd.	51.22
Hyundai Motor India Limited	16.14
Mahindra & Mahindra Ltd.	7.53
Tata Motors Ltd	6.85
Honda Cars India Ltd	5.44
Toyota Kirloskar Motor Pvt. Ltd	4.46
Ford India Pvt. Ltd.	2.75
Renault India Pvt. Ltd.	2.36
Nissan India Pvt. Ltd.	1.08

CRM Technology and Innovation Adoption Levels

The CRM system is the automation of horizontally integrated business processes involving “front office” customer touch points –sales (contact management, product configuration), marketing (campaign management, telemarketing), and customer service (call center, field service)-via multiple, interconnected delivery channels (Popovich and Chen, 2003). Therefore, CRM system implementation is commonly used in functional areas such as customer support and services, sales and marketing. CRM life cycle includes three stages: Integration, Analysis and Action. In the first stage, the CRM lifecycle begins with the integration of front office systems and the centralization of customer-related data. Second stage called Analysis is the most critical to CRM success. CRM analytics enable the effective management of customer relationships and make the organizations able to analyze customer behaviours, identify customer-buying patterns and discover casual relationships. The final phase, Action, is where the strategic decisions are carried out. Business processes and organizational structures are refined based on the improved customer understanding gained through analysis. This stage closes the CRM loop and allows organizations to cash in on the valuable insights gained through analysis. Systemic approaches to CRM help organizations coordinate and effectively maintain the growth of different customer contact points or communication channels. The systemic approach places CRM at the core of the organization, with customer-oriented business processes and the integration of CRM systems.

Innovation is the implementation of new ideas or practice that offers the introduction of new products and services or improvement in the existing products and services being offered. Implementation or the creation of the technology in order to apply to systems, programs, products, processes or any service is known as Innovation capabilities. There are five aspects of Innovation capabilities identified namely product innovation, process innovation, administrative innovation, marketing innovation and service innovation which determines the innovation capability of an organization (Lin et. al, 2009). Therefore, in today’s era of vast technology and innovation, it becomes important to analyze the level of technology and innovation adopted by the automobile companies to implement CRM.

Analysis, Results and Findings of the Study

Perception of sales executives of top 10 car manufacturing companies has been analyzed to know about the level of adoption of new technology and innovative measures to implement the CRM solutions strategically. Prior to the analysis of the results, the research instrument was tested for its reliability. The internal consistency of the grouping of the items is estimated using a reliability co-efficient called cronbach's alpha and alpha value of 0.60 and .70 or above is considered to the criterion for demonstrating internal consistency of new scales and established scales respectively.

Table 2: Reliability Statistics

Factors	No. of Items	No. of Respondents	Cronbach's Alpha
Use of Technology Measures	11	150	.771
Use of Innovation Measures	5	150	.681

Table 2 shows that the alpha values for both the factors i.e. Use of Technology Measures and Use of Innovation Measures are .771 and .681 respectively which signifies the internal consistency of the data and can be used for the further analysis.

Table 3: Use of Technology and Innovation Measures on the basis of Gender

Particular	Male		Female		Mean diff.	t-value	p-value
	N = 108		N= 42				
	Mean	SD	Mean	SD			
Use of Technology Measures	3.798	0.440	3.842	0.463	0.044	0.542	0.589
Use of Innovation Measures	3.824	0.484	3.967	0.448	0.143	1.652	0.101

(Source: Results of primary survey)

* and ** significant at 5% and 1% level of significance respectively

Table 4: Use of Technology and Innovation Measures on the basis of Income

Particular	Mean value for different categories of Income			F-value	p-value
	<Rs. 25000	Rs. 25000-50000	Rs. 50000-75000		
	N=71	N=62	N=17		
Use of Technology Measures	3.829	3.786	3.818	0.161	0.852
Use of Innovation Measures	3.890	3.842	3.835	0.201	0.818

(Source: Results of primary survey)

* and ** significant at 5% and 1% level of significance respectively

Table 5: Use of Technology and Innovation Measures on the basis of Education

Particular	Mean value for different categories of Education				F-value	p-value
	UG	Graduate	PG	Professional		
	N=4	N=65	N=50	N=31		
Use of Technology Measures	3.341	3.813	3.798	3.886	1.817	0.147
Use of Innovation Measures	3.700	3.849	3.868	3.909	0.270	0.847

(Source: Results of primary survey)

* and ** significant at 5% and 1% level of significance respectively

Table 3 exhibits that out of total 150 respondents majority of them i.e 108 (72%) are male and 42 (28%) are female. The mean value of both male and female employees for both the factors is near to 4 which shows that both male and female employees agree that the company uses technology and innovative measure to implement CRM. However, Result shows mean

score of female employees is higher i.e 3.842 and 3.967 than the male employees i.e 3.798 and 3.824 for use of technology and use of innovation respectively which indicates that female employees perceive more sense of agreement than male employees regarding technology adoption and innovative measures used to implement CRM. Further, table 4 reveals that the monthly income of 71 (47.3%) respondents is below Rs. 25,000 , 62(41.3 %) respondents is between Rs. 25000- Rs. 50000 and 17 (11.3%) respondents belong to income group between 50000-75000. Therefore, majority of the respondents i.e. 47.3% belong to income group below 25000. However, mean score regarding use of technology is highest for the employees with the income group up to Rs.25,000 (3.818) followed by income group 50,000-75000 (3.829) and 25,000-50000 (3.786) respectively while agreement level for the use of innovative measure is highest i.e 3.890 for the income group up to Rs. 25000 followed by employees under income group Rs. 25,000- 50,000 (3.842), and Rs. 50,000- 75,000 (3.835) respectively. This shows that high income group still expects more use of technology and innovations from the companies in order to improve their product and services being offered. Table 5 shows that 4 (2.7%) respondents are under graduate, 65 (43.3%) are graduate, 50 (33.3%) are post graduate and 31 (20.7%) are possessing professional degrees. Hence, majority of the respondents i.e 43.3 per cent are graduate. Result shows that all employees agree that the company use technology and innovative measure to implement CRM irrespective of their educational level. However, mean score of professionals (3.886) regarding use of technology is highest followed by graduates (3.813), post graduate (3.341) and under graduate (3.700) respectively while agreement level for the use of innovative measure is highest for professionals i.e 3.909 followed by post graduates (3.868), graduates (3.849) and under graduates respectively. Result shows that all employees agree that the company use technology and innovative measure to implement CRM irrespective of their different income level. To summarize the results of table 3, table 4 and table 5 it can be significantly found that there is no significant difference found in the perception of Sales executives on the basis of gender, educational qualification and on the basis of their income level regarding the use of technology and innovative measures to implement CRM practices.

Table 6: Use of Technology and Innovation Measures on the basis of company

Company	Use of Technology Measures		Use of Innovation Measures	
	Mean	S.D.	Mean	S.D.
Maruti Suzuki	4.054	0.365	3.893	0.477
Hyundai	3.806	0.272	3.693	0.439
M&M	3.679	0.358	3.773	0.477
Tata	3.848	0.522	4.107	0.384
Honda	3.848	0.471	3.867	0.574
Toyota	3.509	0.438	3.547	0.547
Ford	3.909	0.469	3.960	0.497
Renault	3.909	0.398	3.987	0.424
Nissan	3.606	0.488	3.867	0.390
Volkswagen	3.933	0.458	3.947	0.417
F-value	2.227		1.751	
p-value	0.024*		0.083	

(Source: Results of primary survey)

* and ** significant at 5% and 1% level of significance respectively

Above Table shows that there exists significant difference at 5% level of significance (0.024) in the perception of sales executives regarding use of technology for implementing CRM practices. However, no significant difference has been found in the agreement level of sales executives towards the use of innovative measures to implement CRM across different companies. It can be clearly seen from table 6 that mean score of sales executives of Maruti Company (4.054) is highest for adopting latest technology which shows that employees of Maruti Company perceive more sense of agreement than other automobile companies regarding adoption of CRM technology by their company than the other companies. On the other hand, mean score of sales executives of Tata Company (4.107) is highest for adopting new innovative practices which shows that employees of Tata Company perceive more sense of agreement regarding use of more innovative strategies to implement CRM by their company than the other companies. Sales executives of other automobile companies agree that their company uses the new technology and innovative measures to implement CRM but the level of adoption of technology and innovative measures varies from company to company. Therefore, Organizations must realize that CRM implementations and changing effect of the Internet offer abundant research opportunities and they should focus on the delivering the highest value to customers through better communication, faster delivery, and personalized products and services.

Conclusion

It can be concluded that employees of the car manufacturing companies believe that their respective companies are adopting the new technology process to implement CRM. However, the perception of sales executives varies from company to company for the level of adoption of technology processes. Some companies are adopting CRM solutions aggressively while others are adopting the new technology and innovative measures moderately. The implementation and provision of interactive communication technologies enhance the quality and frequency of organization – customer communication, hence increases the success of the CRM strategy. Therefore, managing a successful CRM implementation requires an integrated and balanced approach to technology, process, and people. The companies should redesign their business processes to enhance their competitiveness through more meaningful interaction with customers.

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Websites

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Appendix.....

Technology Measure Items

- Automates routine activities such as providing promotional literature.
- Enables to track cross sell/ up sell opportunities
- Control sales through multiple dealer
- Allows relevant employees access to unified customer data
- Provides customers' access to a knowledge base of solutions to commonly occurring problems e.g. frequently asked questions
- Schedules and tracks service delivery
- Uses data warehousing and data mining to save customers' information for identifying which of the potential customers are more valuable
- Enables forecast of customer's preferences
- Measures Customer Loyalty
- Calculates Customer lifetime value
- Calculates Customer retention rates

Innovation Measure Items

- Products produced by automobile company are innovative and as per customers' tastes, needs and personality.
- Follows innovative procedure and processes for serving customers.
- Automobile company actively stresses on innovative customer loyalty or retention programs.
- Uses innovative marketing methods such as presence on social media such as Facebook, Youtube and Twitter etc.
- Uses service innovation such as provides customers with the facility of door step service van.